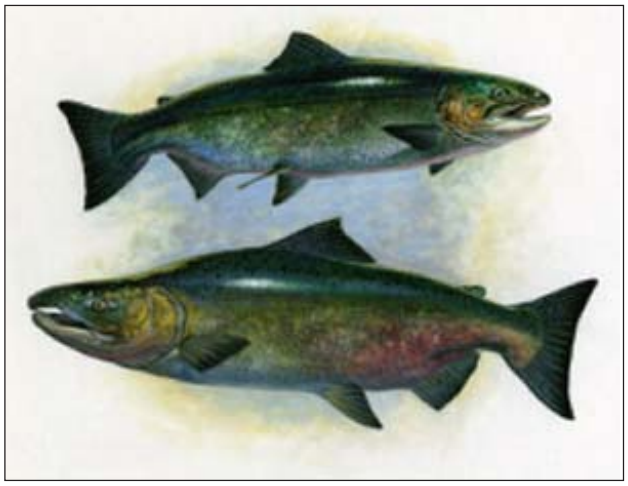
Hatchery Update

Spring Creek National Fish Hatchery



Introduction

The U.S. Fish and Wildlife Service (USFWS) operates 12 National Fish Hatcheries (NFH) and one Fish Technology Center in the Columbia River basin. The Columbia River Fisheries Program Office (CRFPO) works with 6 of these facilities to help evaluate release programs and conduct special studies. The CRFPO maintains the Service's hatchery database as well.

About Spring Creek National Fish Hatchery

The hatchery is located on the Columbia River in Underwood, Washington, 167 river miles from the ocean. Spring Creek has raised tule fall chinook salmon since 1901. These fish are native to the White Salmon River, which is only two miles east of the hatchery. The facility has undergone two major reconstructions. The hatchery is funded by the U.S. Army Corps of Engineers and the Mitchell Act, which is administered by the National Marine Fisheries Service.

Spring Creek NFH has the capacity to incubate 60 million eggs and rear 15 to 16 million smolts in 44 rearing ponds. Subyearling fish are released during March, April, and May. An unfed fry release is also being evaluated.

Adult Escapement Goal

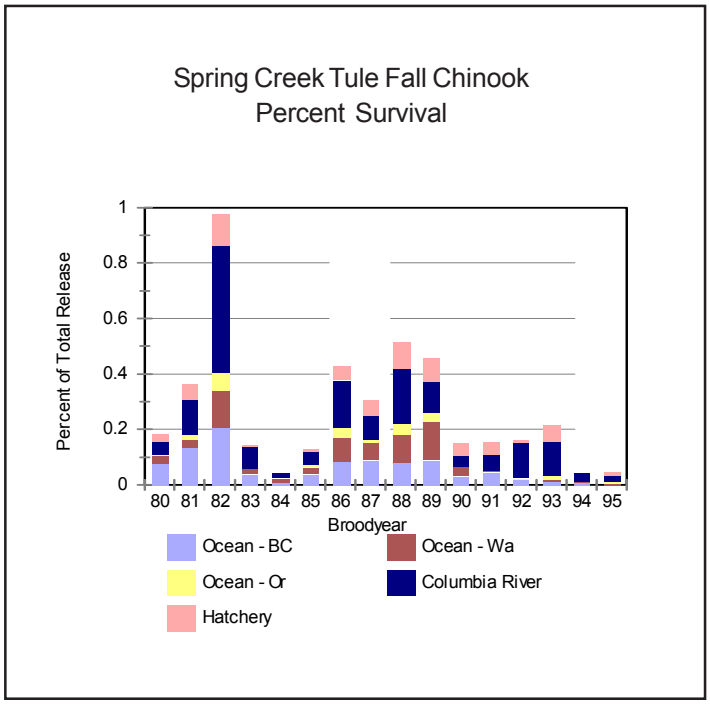
A return of 7,000 adult salmon is needed to collect enough eggs for production of 16 million fish.

Hatchery Goal

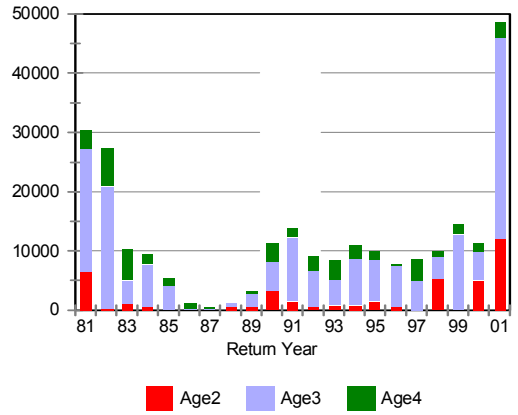
Spring Creek NFH was first established to supplement the commercial harvest. Today the USFWS operates this hatchery to mitigate for lost habitat, provide for commercial and sport harvest, meet tribal treaty and trust responsibilities, and to conserve this unique stock of salmon for future reintroduction to its native habitat. One of Spring Creek's most important goals is to maintain the genetic integrity of this stock to ensure that it will remain unique among all other populations of tule fall chinook and to maximize the potential for success in future reintroduction efforts.

Economic Benefit

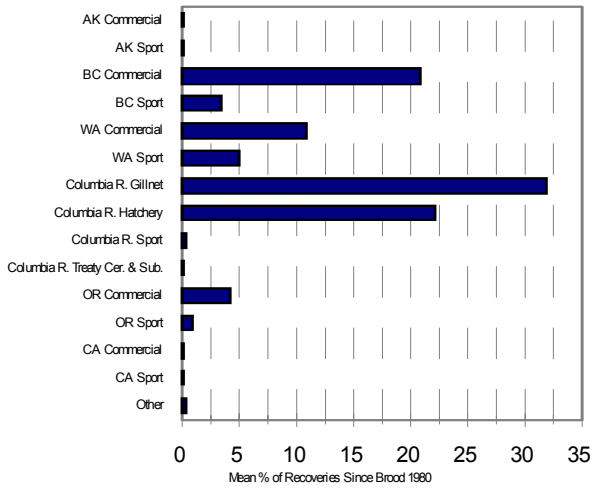
A draft economic benefit analysis of returning Spring Creek NFH spring chinook salmon was completed in 1999. The results of this study showed that for each $1.00 spent, $7.63 of economic activity was generated.



Number and Age Composition of Returning Adults



Spring Creek Tule Fall Chinook Salmon
Mean Percent Recoveries Since Brood 1980



Sampling of Returning Fish

A proportion of returning adults are sampled at each hatchery. Sex and length are recorded and scales are collected so that age can be determined. By using sample information and the number of returning fish, it is possible to calculate the number of returning fish for each age group and, consequently, the number of fish returning from each brood year or release year. On average, since 1981, 66% of Spring Creek's adult returns are three year olds, 18% are four year olds, approximately 16% are two year olds, and less than 1% return as five year olds. In 2001, a record high number of returning jacks (two year olds) indicates good survival of returning adults in 2002. About 136,000 adults are expected to the mouth of the Columbia River this fall.

The number of fish returning from a hatchery release is influenced by early rearing at the hatchery, downstream migration, ocean conditions, and the harvest rate in the various fisheries.

Contribution

The coded-wire tag marking program has made it possible to determine survival rates and contribution to fisheries. Over 75% of the adult recoveries are from ocean or Columbia River fisheries. Spring Creek tule fall chinook serve as an index stock for estimating ocean exploitation rates as part of the Pacific Salmon Commission's treaty between Canada and the United States. Information recovered from the 450,000 tules marked each year with coded wire tags provides harvest managers with information about the condition of the tules and other stocks of salmon that migrate in the same area of the Pacific Ocean.

Outlook for the Future

Like wild salmon, the Spring Creek stock is dependent on healthy aquatic habitat and favorable environmental conditions. With an emphasis being placed on habitat protection and restoration, we believe the hatchery program can help rebuild this stock to its historic numbers.

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